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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
CHORBAJI, MONZER R	
ART UNIT	**PAPER NUMBER**
1744	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/530,361	MORUZZI, GUIDO	
	Examiner	Art Unit	
	MONZER R. CHORBAJI	1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 January 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-6,15,17,18 and 21-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-6,15,17,18 and 21-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 April 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This non-final is in response to the Pre-Appeal Brief Request received on 01/25/2007

1. In view of the Pre-Appeal Brief Request filed on 01/25/2007, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

2. To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) File a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) Initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 15, 17, 26 and 29-31are rejected under 35 U.S.C. 102(b) as being anticipated by Doucette et al (U.S.P.N. 3,513,627).

Regarding claims 15, 26 and 29, Doucette teaches an apparatus (figure 1) for sterilizing a packaging sheet material (col.1, lines 30-36) that includes a sterilant bath capable of holding hydrogen peroxide solution (figure 1:75) connected in sequence to heaters, i.e., air knife, (figure 1:89) that are capable of directing a stream of heated air on the surface of the web that is additionally connected in sequence to UV lamps (figure 1:91) capable of irradiating the web with a wavelength between 200 nm and 320 nm and guide rollers (47, 53, 59, 61, 67, 69, 71, 77, 79 and 81). As to the limitation of substantially removing all but a residual trace quantity of hydrogen peroxide absorbed or adjacent to microorganisms present on the surface of the web, it is construed as a way of operating Doucette's device that does not further limit the scope of the above claims. See MPEP 2114.

Regarding claims 17 and 30-31, Doucettes's UV lamps (figure 1:91) are capable of irradiating at wavelength of about 200nm, or 222 nm or between 200nm and 320 nm (figure 1, C).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 18, 27 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doucette et al (U.S.P.N. 3,513,627) as applied to claims 15, 26, 31 and further in view of Castberg et al (U.S.P.N. 5,744,094).

Regarding claims 18, 27 and 32, Doucette does not specifically teach the use of an excimer lamp. Castberg discloses that it known to use an excimer lamp (col.2, lines 36-38). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to furth modify Doucette apparatus to include an excimer lamp as disclosed by Castberg since the geometr of the beam may be altered in response to changes in fluid characteristics, i.e., aqueous hydrogen peroxide solution, in order to improve the efficiency of sterilization of wet surfaces (col.2, lines 34-38

8. Claims 4 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doucette et al (U.S.P.N. 3,513,627) in view of Kodera et al (U.S.P.N. 4,366,125), DiGeronimo (U.S.P.N. 4,494,357) and further in view of Loliger et al (U.S.P.N. 3,692,468).

Regarding claim 4, Doucette discloses an apparatus and a method (figure 1 and col.4, lines 2551) for sterilizing surfaces of webs contaminated with microorganisms that includes the following: immersing the web into a liquid sterilant (figure 1:73) over an inherent time interval, applying heat from heater plates (figure 1:89 and col.3, lines 58-62) for drying the sterilant so that a substantial amount of the sterilant is removed from the surface of the web, then UV irradiating the web (figure 1:91). Doucette fails to teach the following: the use of liquid hydrogen peroxide, the use of air for retaining a residual quantity of hydrogen peroxide absorbed by or located adjacent to microorganisms present on the surface of the sheet material, UV wave length of about 200 nm and 320 nm, temperature of the liquid hydrogen peroxide and contact time from 0.5 seconds to 2 seconds. Kodera teaches a method for sterilizing a packaging sheet material (col.1, lines 8-13) including the following: applying a liquid solution of hydrogen peroxide to the surface of a packaging material by immersing the material in a hydrogen peroxide bath (col.6, lines 25-28) at a certain temperature (col.4, lines 23-25), which includes microorganisms, applying a stream of air to the packaging sheet material for removing a substantial amount of hydrogen peroxide from the surface of the packaging material (col.5, lines 10-15), irradiating the surface with UV light at a certain wavelength value (figure 1, C) and immersing for the material for one second (col.6, lines 25-28 and lines 36-39). The specification only teaches of microorganisms without providing any significance. As a result, the microorganisms present on the surfaces of the packaging sheet material in Kodera intrinsically absorb the residual hydrogen peroxide left after the step of drying. In addition, Kodera teaches the importance of the synergistic effect

produced by the combination of hydrogen peroxide and UV (col.1, lines 13-18). Clearly Kodera provides for a trace quantity of hydrogen peroxide for its interaction with the UV light. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the germicidal liquid of Doucette with the liquid hydrogen peroxide because of the synergistic sterilization effect of combining hydrogen peroxide with UV light (Kodera, col.1, lines 15-18), to immerse web material for one second so that the sterilization process is performed over shorter cycles and to substitute heater plates with hot air since aseptic hot air sterilizes and dries the two surfaces of the web material (Kodera, col.5, lines 12-14).

Kodera fails to explicitly disclose a wavelength range value for the UV light and a temperature range value for the hydrogen peroxide bath. DiGeronimo teaches irradiating at 254 nm (col.2, lines 50-52). As a result, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify Doucette method by irradiating at 254 nm as taught by DiGeronimo since the lamp at such a wavelength operates at 99.9% efficiency (col.2, lines 50-52).

DiGeronimo fails to disclose a temperature range value for the hydrogen peroxide bath. Loliger teaches maintaining the hydrogen peroxide bath temperature at 60 degree Celsius (col.2, lines 70-71). As a result, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify Doucette method by heating the hydrogen peroxide bath to 60 degree Celsius as taught by Loliger since it is known in the art that at such a temperature packing sheet

residence time in the bath is only 6 second that even kills heat-resistant germs (col.1, lines 30-33).

Regarding claim 28, Doucette discloses an apparatus and a method (figure 1 and col.4, lines 2551) for sterilizing surfaces of webs contaminated with microorganisms that includes the following: immersing the web that is inherently hydrophobic into a liquid sterilant (figure 1:73) over an inherent time interval, applying heat from heater plates (figure 1:89 and col.3, lines 58-62) for drying the sterilant so that a substantial amount of the sterilant is removed from the surface of the web, then UV irradiating the web (figure 1:91). Doucette fails to teach the following: the use of liquid hydrogen peroxide, the use of air for retaining a residual quantity of hydrogen peroxide absorbed by or located adjacent to microorganisms present on the surface of the sheet material, UV wave length of about 200 nm and 320 nm, temperature of the liquid hydrogen peroxide, contact time from 0.5 seconds to 2 seconds and a temperature of the heated air. Kodera teaches a method for sterilizing a packaging sheet material (col.1, lines 8-13) including the following: applying a liquid solution of hydrogen peroxide to the surface of a packaging by immersing the material in a hydrogen peroxide bath (col.6, lines 25-28) at a certain temperature (col.4, lines 23-25), which includes microorganisms, applying a stream of air the packaging sheet material for removing a substantial amount of hydrogen peroxide from the surface of the packaging material (col.5, lines 10-15), irradiating the surface with UV light at a certain wavelength value (figure 1, C) and immersing for the material for one second (col.6, lines 25-28 and lines 36-39).The specification only teaches of microorganisms without providing any significance. As a

result, the microorganisms present on the surfaces of the packaging sheet material in Kodera intrinsically absorb the residual hydrogen peroxide left after the step of drying. In addition, Kodera teaches the importance of the synergistic effect produced by the combination of hydrogen peroxide and UV (col.1, lines 13-18). Clearly Kodera provides for a trace quantity of hydrogen peroxide for its interaction with the UV light. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the germicidal liquid of Doucette with the liquid hydrogen peroxide because of the synergistic sterilization effect of combining hydrogen peroxide with UV light (Kodera, col.1, lines 15-18), to immerse web material for one second so that the sterilization process is performed over shorter cycles and to substitute heater plates with hot air since aseptic hot air sterilizes and dries the two surfaces of the web material (Kodera, col.5, lines 12-14).

Kodera fails to explicitly disclose a wavelength range value for the UV light, a temperature range value for the hydrogen peroxide bath and a temperature value range for the drying air. DiGeronimo teaches irradiating at 254 nm (col.2, lines 50-52) and a temperature value range for the drying air (col.3, lines 13-14). As a result, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify Doucette method by irradiating at 254 nm as taught by DiGeronimo since the lamp at such a wavelength operates at 99.9% efficiency (col.2, lines 50-52).

DiGeronimo fails to disclose a temperature range value for the hydrogen peroxide bath. Loliger teaches maintaining the hydrogen peroxide bath temperature at 60 degree Celsius (col.2, lines 70-71). As a result, it would have been obvious to one

having ordinary skill in the art at the time the invention was made to further modify Doucette method by heating the hydrogen peroxide bath to 60 degree Celsius as taught by Loliger since it is known in the art that at such a temperature packing sheet residence time in the bath is only 6 second that even kills heat-resistant germs (col.1, lines 30-33).

9. Claims 2-3, 5 and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doucette et al (U.S.P.N. 3,513,627) in view of Kodera et al (U.S.P.N. 4,366,125) and further in view of DiGeronimo (U.S.P.N. 4,494,357).

Regarding claims 21 and 23, Doucette discloses an apparatus and a method (figure 1 and col.4, lines 2551) for sterilizing surfaces of webs contaminated with microorganisms that includes the following: immersing the web into a liquid sterilant (figure 1:73) over an inherent time interval, applying heat from heater plates (figure 1:89 and col.3, lines 58-62) for drying the sterilant so that a substantial amount of the sterilant is removed from the surface of the web, then UV irradiating the web (figure 1:91). Doucette fails to teach the following: the use of liquid hydrogen peroxide, the use of air for retaining a residual quantity of hydrogen peroxide absorbed by or located adjacent to microorganisms present on the surface of the sheet material and UV irradiating at wave length of about 200 nm and 320 nm. Kodera teaches a method for sterilizing a packaging sheet material (col.1, lines 8-13) including the following: applying a liquid solution of hydrogen peroxide to the surface of a packaging by advancing (figure 1, 3) the material into a hydrogen peroxide bath for immersing (means for applying) the material into a hydrogen peroxide bath (col.6, lines 25-28), which includes

microorganisms, applying a stream of hot air (figure 1, 42) to the packaging sheet material for removing a substantial amount of hydrogen peroxide from the surface of the packaging material (col.5, lines 10-15) and irradiating the surface with UV light (figure 1, 34) at a certain wavelength value (figure 1, C) by directing UV light onto the surface of the material (figure 1, 34 and 1). The specification only teaches of microorganisms without providing any significance. As a result, the microorganisms present on the surfaces of the packaging sheet material in Kodera intrinsically absorb the residual hydrogen peroxide left after the step of drying. In addition, Kodera teaches the importance of the synergistic effect produced by the combination of hydrogen peroxide and UV (col.1, lines 13-18). Clearly, Kodera provides for a trace quantity of hydrogen peroxide for its interaction with the UV light. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the germicidal liquid of Doucette with the liquid hydrogen peroxide because of the synergistic sterilization effect of combining hydrogen peroxide with UV light (Kodera, col.1, lines 15-18), to immerse web material for one second so that the sterilization process is performed over shorter cycles and to substitute heater plates with hot air since aseptic hot air sterilizes and dries the two surfaces of the web material (Kodera, col.5, lines 12-14).

Kodera fails to explicitly disclose a wavelength range value for the UV light. DiGeronimo teaches irradiating at 254 nm (col.2, lines 50-52). As a result, it would have been obvious to one having ordinary skill in the art at the time the invention was made

to further modify Doucette method by irradiating at 254 nm as taught by DiGeronimo since the lamp at such a wavelength operates at 99.9% efficiency (col.2, lines 50-52).

Regarding claims 5 and 22, Doucette discloses a method (figure 1 and col.4, lines 2551) for sterilizing surfaces of webs that are inherently hydrophobic contaminated with microorganisms that includes the following: immersing the web into a liquid sterilant (figure 1:73) over an inherent time interval, applying heat from heater plates (figure 1:89 and col.3, lines 58-62) for drying the sterilant so that a substantial amount of the sterilant is removed from the surface of the web, then UV irradiating the web (figure 1:91). Doucette fails to teach the following: the use of liquid hydrogen peroxide having a certain percent by weight value for hydrogen peroxide, the use of air for retaining a residual quantity of hydrogen peroxide absorbed by or located adjacent to microorganisms present on the surface of the sheet material, UV irradiating at wave length of about 200 nm and 320 nm and a temperature value for the heated air. Kodera teaches a method for sterilizing a packaging sheet material (col.1, lines 8-13) including the following: applying a liquid solution of hydrogen peroxide to the surface of a packaging by advancing (figure 1, 3) the material into a hydrogen peroxide bath for immersing (means for applying) the material into a hydrogen peroxide bath (col.6, lines 25-28), which includes microorganisms, applying a stream of hot air (figure 1, 42) the packaging sheet material for removing a substantial amount of hydrogen peroxide from the surface of the packaging material (col.5, lines 10-15), irradiating the surface with UV light (figure 1, 34) at a certain wavelength value (figure 1, C) by directing UV light onto the surface of the material (figure 1, 34 and 1) and means for advancing the packaging

sheet material (figure 1, 3). The specification only teaches of microorganisms without providing any significance. As a result, the microorganisms present on the surfaces of the packaging sheet material in Kodera intrinsically absorb the residual hydrogen peroxide left after the step of drying. In addition, Kodera teaches the importance of the synergistic effect produced by the combination of hydrogen peroxide and UV (col.1, lines 13-18). Clearly Kodera provides for a trace quantity of hydrogen peroxide for its interaction with the UV light. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the germicidal liquid of Doucette with the liquid hydrogen peroxide because of the synergistic sterilization effect of combining hydrogen peroxide with UV light (Kodera, col.1, lines 15-18) and to substitute heater plates with hot air since aseptic hot air sterilizes and dries the two surfaces of the web material (Kodera, col.5, lines 12-14).

Kodera fails to teach the following: a wavelength range value for the UV light, a concentration of at least 10% by weight and a temperature value range for the drying air. DiGeronimo teaches the following: irradiating at 254 nm (col.2, lines 50-52), a concentration of at least 10% by weight (the DiGeronimo reference teaches in col.3, lines 10-11, that a 30% hydrogen peroxide solution is used without specifying whether the percentage is weight or volume. Assuming a 100 ml of solution and using the density of hydrogen peroxide, a 30 ml of hydrogen peroxide corresponds to 42.2 g of hydrogen peroxide, which is equivalent to 38 percent by weight) and a temperature value range for the drying air (col.3, lines 13-14). As a result, it would have been obvious to one having ordinary skill in the art at the time the invention was made to

further modify Doucette method by irradiating at 254 nm as taught by DiGeronimo since the lamp at such a wavelength operates at 99.9% efficiency (col.2, lines 50-52).

Regarding claims 2-3 and 24, Doucette discloses a method (figure 1 and col.4, lines 2551) for sterilizing surfaces of webs by immersing the web into a liquid sterilant (figure 1:73), but fails to teach the use of liquid hydrogen peroxide. Kodera discloses hydrogen peroxide bath concentration of 5% (col.6, lines 8-10). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the germicidal liquid of Doucette with the liquid hydrogen peroxide because of the synergistic sterilization effect of combining hydrogen peroxide with UV light (Kodera, col.1, lines 15-18).

Kodera fails to teach hydrogen peroxide concentration of up to 50% or between 20% to 40%. DiGeronimo teaches in col.3, lines 10-11, that a 30% hydrogen peroxide solution is used without specifying whether the percentage is weight or volume. Assuming a 100 ml of solution and using the density of hydrogen peroxide, a 30 ml of hydrogen peroxide corresponds to 42.2 g of hydrogen peroxide, which is equivalent to 38 percent by weight. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify Doucette method by optimizing the hydrogen peroxide concentration since such a modification is a matter of routine experimentation that depends on how much the packaging sheet material is contaminated with microorganisms, for example, heavily contaminated material requires higher concentration values for hydrogen peroxide.

Regarding claim 25, Doucette discloses a method (figure 1 and col.4, lines 2551) for sterilizing surfaces of webs by immersing the web into a liquid sterilant (figure 1:73) and applying heat from heater plates (figure 1:89 and col.3, lines 58-62) for drying the sterilant so that a substantial amount of the sterilant is removed from the surface of the web. Doucette fails to teach the use of heated air with a certain temperature. Kodera applies hot air (figure 1, 42 and 1) to the surface of the packaging sheet material without explicitly disclosing its temperature. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the germicidal liquid of Doucette with the liquid hydrogen peroxide because of the synergistic sterilization effect of combining hydrogen peroxide with UV light (Kodera, col.1, lines 15-18) and to substitute heater plates with hot air since aseptic hot air sterilizes and dries the two surfaces of the web material (Kodera, col.5, lines 12-14).

Kodera fails to disclose an explicit temperature for the hot air. DiGeronimo teaches applying an air stream of a temperature range value of between 150 to 155 degree Celsius (col.3, lines 13-14). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify Doucette method by drying the packaging sheet material with air heated to a temperature of 150 degree Celsius as taught by DiGeronimo since such a modification is a matter of routine experimentation that depends on how the desired amount of hydrogen peroxide removal intended.

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Doucette et al (U.S.P.N. 3,513,627) in view of Kodera et al (U.S.P.N. 4,366,125), DiGeronimo

(U.S.P.N. 4,494,357) as applied to claim 21 and further in view of Lagunas-Solare et al (U.S.P.N. 5,364,645).

Doucette, Kodera and DiGeronimo all fail to disclose the use of polychromatic UV light source. Lagunas-Solare teaches that it is known to use Polychromatic UV light for surface microbial disinfection (col.1, lines 38-41). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Doucette method to include a polychromatic UV light source as taught by Lagunas-Solare since such a source is known to be effective in surface microbial disinfection (col.1, lines 51-52 and lines 9-11).

Response to Arguments

11. Applicant's arguments with respect to claims 2-6, 15, 17-18 and 21-32 have been considered but are moot in view of the new ground(s) of rejection.

Doucette anticipates apparatus claims 15, 17, 26 and 29-31 since the reference discloses an apparatus (figure 1) for sterilizing a packaging sheet material that includes a sterilant bath capable of holding hydrogen peroxide solution (figure 1:75) connected in sequence to heaters, i.e., air knife, (figure 1:89) that are capable of directing a stream of heated air on the surface of the web that is additionally connected in sequence to UV lamps (figure 1:91) capable of irradiating the web with a wavelength between 200 nm and 320 nm and guide rollers (47, 53, 59, 61, 67, 69, 71, 77, 79 and 81). As to the limitation of substantially removing all but a residual trace quantity of hydrogen peroxide absorbed or adjacent to microorganisms present on the surface of the web, it is construed as a way of operating Doucette's device that does not further limit the scope

of the above claims. In addition, Doucettes's UV lamps are capable of irradiating at wavelength of about 200nm, or 222 nm or between 200nm and 320 nm.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONZER R. CHORBAJI whose telephone number is (571) 272-1271. The examiner can normally be reached on M-F 9:00-5:30.

13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, GLADYS J. CORCORAN can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MRC

GLADYS JP CORCORAN
SUPERVISORY PATENT EXAMINER